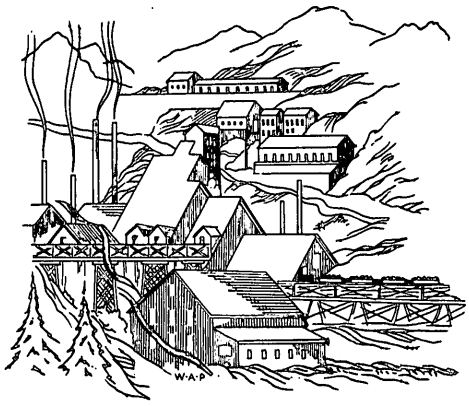

PHONE 9-1221

United Mining Development Company, Inc.

144 WEST 2ND SOUTH
SALT LAKE CITY, UTAH

July 25, 1953

Mr. Steve Wilson
Bureau of Mines
Salt Lake City, Utah

Dear Mr. Wilson:

This is the final report upon completion of uor contract Idm-E 340, (pb-zn) Docket No. DMEA-1923.

As per previous reports, we have drifted for a total of 585 feet along the mineralized zone of the Blaine Fissure. For practically this entire distance the fissure contained considerable iron-pyrite with some showing of fine-grained galena and blende crystals. In three places during this drifting we encountered a good grade of lead-zinc sulphide ore, occuring in a greenish gangue and filling the fissure from wall to wall. This on first appearance looked very encouraging but on further investigation proved to be disconnected ore-lenses which feathered out in a few feet. Inasmuch as these ore-lenses are found in the lower tunnel, middle tunnel, upper tunnel and can be found also on the surface, it is evident that altho they are not connected there must be a continuation either up or down in certain beddings which are favorable to ore deposition. Our hope is to find a favorable bedding large enough to make a commercial ore body. With this indication in mind it is our intention to do a limited amount of prospecting in the future as funds become available.

Due to the long tram, which was all done by man-power and the high cost of labor and supplies we find that our costs have been in excess of our estimate and the contract price of $27.58 per foot of drift.

At the present time we have two men on the property who are working part-time doing assessment work on another group of claims and part-time continuing the raise from the lower to the middle tunnel. They are saving a little ore from this operation and I shall notify you when a shipment is ready to go forward.

I wish to express appreciation for the help and co-operation we have received from the Bureau and especially from you personally and also from your engineer Mike Howes.

Very truly yours

O. H. Evans

Region IV

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

May 17, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 1923 (lead-zinc), United Mining Development Company, Inc., Ida Mine, Tooele County, Utah

Enclosed are 9 copies of the final geologic report by R. W. Osterstock and C. G. Tillman of the U. S. Geological Survey covering the above docket.

No additional exploration can be recommended on the strength of the information developed by the DMEA project. A Certificate of Discovery has been issued.

E. M. Hawkman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

Room 208 - 222 So. West Temple
Salt Lake City 1, Utah
May 14, 1954

Memorandum

To: A. H. Koschmann, Field Team, Region IV

From: R. W. Osterstock, for R. J. Roberts
Utah-Nevada District Office

Subject: DMEA Docket 1923 (Lead-zinc), United Mining Development Company, Inc., Ida Mine, Tooele County, Utah

Enclosed are nine copies of the final geologic report on the Ida mine, DMEA Docket 1923, by R. W. Osterstock and C. G. Tillman, geologists, U. S. Geological Survey.

The United Mining Development Company, Inc. were granted a DMEA loan to aid in the exploration for lead-zinc ores in the Ida mine located in Blaine Canyon on the south slope of the Simpson Mountains in the Erickson mining district.

Lead-zinc mineralization in the Ida mine is confined to the Blaine fissure system and more specifically to those areas where branching fissures have intersected in the chloritic shale units. Drifting 585 feet along the fissure system has demonstrated its persistence along strike but only three small pockets of ore were exposed.

It is estimated that the DMEA work has increased the reserve picture by only 270 tons of possible and probable class ore of marginal grade. No further exploration appears to be warranted on the strength of the information developed by the DMEA project.

R. J. Roberts

By_____
C. G. Tillman

RWO/rs

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA Docket 1923 (Lead-zinc) Ida Mine, United Mining and Development Company, Erickson District Tooele County, Utah

By

R. W. Osterstock and C. G. Tillman
U. S. Geological Survey

May 14, 1954

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Introduction	2
Location and accessibility	2
History and production	2
Geology	3
Ore deposits	4
Ore reserves	5
Exploratory work	6
Conclusions and recommendations	6

ILLUSTRATIONS

Figure 1. Index map of Central Utah.

Figure 2. Map of lower level, Ida Mine.

GEOLOGIC REPORT

DMEA Docket 1923 (Lead-zinc) Ida Mine
United Mining and Development Company, Erickson District
Tooele County, Utah

SUMMARY

The United Mining Development Company, Inc., was granted a DMEA loan on work totaling $16,548.00 to aid in exploration for lead-zinc ore along the northwestern extension of the Blaine fissure in the Ida mine, Tooele County, Utah.

The Ida mine is on the south flank of the Simpson Mountains in an area of interbedded chloritic shales and chloritic quartzites of pre-Cambrian age. The ore mineralization appears to be confined to the Blaine fissure system with little or no replacement out into the walls.

It was effectively demonstrated that the Blaine fissure system is persistent along strike but that the ore occurrences within the fissure are extremely spotty. The contract was terminated after 585 of the authorized 600 feet of drifting.

Based on past production as well as the information developed by DMEA work it is estimated that the mine contains 70 tons of probable ore and 200 tons of possible ore averaging 6-8 percent lead and 7-8 percent zinc.

No additional exploration can be recommended on the strength of the information thus far available.

INTRODUCTION

The United Mining Development Company, Inc. applied for a loan, DMEA Docket 1923, to aid in exploration for lead-zinc ore at the Ida mine, Erickson district, Tooele County, Utah. The property was examined by R. C. Middleton, Mining Engineer, U. S. Bureau of Mines on October 10, 1952. The U. S. Geological Survey did not participate in the examination of the property. It was recommended that a loan be granted and on June 6, 1952 contract No. Idm-K340 was consummated authorizing a total of $16,548.00 for 600 feet of drifting northwest on the Blaine fissure system. The contract was terminated on May 31, 1953 after completion of 585 feet of drifting. A total of $16,134.30 was expended during the course of the project.

LOCATION AND ACCESSIBILITY

The Ida mine is situated in Blaine Canyon on the south flank of the Simpson Mountains in southeastern Tooele County, Utah. The exact location is Sec. 35, T. 10 S., R. 8 W., SLB&M, Erickson mining district. The property, about 50 airline miles westerly from Eureka, Utah, may be reached by travelling 17 miles south from Eureka on paved U. S. Highway 6 to Jericho, thence westerly 27 miles on the gravelled Jericho-Callao road, thence northerly 10 miles on an unimproved dirt road leading to the mine (fig. 1).

History and Production

The Ida mine, formerly known as the Blaine mine, shipped 100 tons of lead carbonate ore during the 1880's from the upper oxidized portions of the Blaine fissure. From 1918 to 1925 only 85 tons of ore averaging 2.2 oz. of silver per ton, 19.5 percent lead and 13.7 percent zinc were shipped. Just prior to the DMEA loan 115 tons of ore containing 10.3

percent lead and 9.6 percent zinc were shipped from the lower adit level. During the course of the exploration project two small pockets of ore on the lower adit level produced 39.65 tons containing 0.0975 ounces gold per ton, 0.85 ounces silver per ton, 7.41 percent lead, 8.4 percent zinc and 0.06 percent copper, and 48.18 tons containing 0.025 ounces gold per ton, 1.545 ounces silver per ton, 8.55 percent lead, 9.35 percent zinc and 0.275 percent copper.

GEOLOGY

Sedimentary rocks in Blaine Canyon in the vicinity of the Ida mine are green shales and quartzites. G. F. Loughlin first described the section in the U. S. Geological Survey Prof. Paper 111, (1920, pp 446-447) as being several thousands of feet thick and composed entirely of alternating beds of greenish shale, dark and light quartzites and conglomerate, with green shales most abundant on the lower slopes near the Ida mine and greenish chloritic quartzite most abundant in the upper part of the unit. There are no limestones exposed in the vicinity of the mine. Loughlin (1920, p. 448) suggests pre-Cambrian age for the lower series and Eardley and Hatch (G.S.A. Bull. Vol. 51, p. 840, 1940) date a similar series of interbedded quartzites and argillites in the Sheeprock uplift, of which the Simpson Mountains are a part, as Proterozoic.

The argillic rocks in the mine area are predominantly green and weather to a dark, rusty brown, locally they are slaty and contain sufficient chlorite and mica to be termed phyllite. They are often gradational in thin bedded, fine grained greenish gray to purple chloritic quartzite which also weathers to a dark brown color.

The sediments are cut by a few porphyry dikes and are covered in places by remnants of volcanic flows, however, no igneous rocks are exposed in the immediate mine area.

Structurally the beds in the mine area are essentially homoclinal with a fairly uniform northwest strike and shallow northeast dip. The major structural feature is the Blaine fissure system which strikes N. 50°-60° W. and dips 60°-70° NE. Fissure systems in the area with this general trend have been demonstrated to be the most persistent but are, nevertheless, relatively short compared to fault systems in major mining districts. Most of these fissures are mineralized to some degree. Loughlin (1920 p. 450) notes that owing to the unequal resistance of the different strata, clean cut fissures were developed in the more quartzitic beds but failed to persist in the more shaly beds. Such an explanation would also account for the numerous strands and splits making off from the main fissure. Argillites and shales where cut by the main fissure readily produced thick gouge, breccia and shatter zones.

ORE DEPOSITS

In the Ida mine the ore has been confined to the steeply dipping Blaine fissure system, there has been no significant replacement out from the fissures other than a slight impregnation of the walls of pyrite. The ore minerals are galena, sphalerite, a small amount of chalcopyrite and probably some tetrahedrite. Very minor gold has been reported on some assay returns. Gangue minerals include calcite, quartz, chlorite, possibly some sericite, and pyrite. Apparently the chloritic shaly beds were more readily susceptible to attack by the ore carrying solutions than the purer quartzite beds. The larger ore exposures appear to be localized in the more chloritic beds where they are thoroughly shattered by either the main Blaine fissure, or a related set of branch fissures.

ORE RESERVES

Two shipments of ore were produced from the ore bodies exposed by DMEA work. The first lot of 48.18 tons (block A, Fig. 2) contained 1.54 ounces gold, 8.55 percent lead and 9.3 percent zinc. The second lot of 39.65 tons (block B, Fig. 2) contained 0.85 ounces gold, 7.41 percent lead and 8.4 percent zinc. In both instances the ore pods were virtually mined out. Although a third body of ore (block C, Fig. 2) exposed by DMEA work has not been mined, it is probable that only a few tons of tons are present. A certificate of discovery was issued on the basis of these small bodies of ore.

Francis Cameron of International Smelting and Refining Company, reported 11,087 tons of assured ore reserves containing 5.6 percent lead and 6.66 percent zinc. Such a figure would necessitate a solid body of ore about 3 feet wide with 150 feet of depth over 250 feet of strike length. The sporadic appearance of relatively small ore lenses and pods thus far developed in the Ida mine indicate that Cameron's tonnage estimate was far too high.

The reserve estimate based on past production as well as the information developed by DMEA work is as follows:

Proven ore	0 tons	
Probable ore		
Block A	40 tons	up dip extension
Block C	30 tons	
Possible ore	200 tons	Up and down dip extensions of blocks A, B, and C.
Total, all classes	270 tons of 6-8 percent lead and 7-8 percent zinc	

EXPLORATORY WORK

This project was designed to explore the northwestern extension of the Blaine fissure system on the lower adit level. Minable ore had previously been found in small shoots along the main fissure as well as in some of the branching fissures.

Three small pods of ore were exposed by the DMEA project. Each of the three bodies of ore are localllized by the intersection of fissures in chloritic shale and in each case the ore mineralization is restricted to the breccia and shatter zone with no appreciable amount of ore making making off into the walls. These small lens and pod-like ore bodies located by DMEA work are much like those mined from the Blaine fissure system in the past.

The allowed expenditure under contract Idm-E340 dated June 6, 1952 was $16,548.00 for 600 feet of drifting. The total cost of the project was $16,134.30. Although 600 feet of drifting had been authorized in the DMEA contract, the project was terminated after 585 feet of advance because of the small likelihood of encountering any noteworthy mineralization in the remaining 15 feet.

CONCLUSIONS AND RECOMMENDATIONS

Exploration work along the northwestern extension projection of the Blaine fissure system resulted in the discovery of three small pods of ore two of which were virtually mined out in producing about 40 tons each during the DMEA project. Drifting on and along the Blaine fissure system for 585 feet has demonstrated that the system is relatively persistent in strike and dip. Localllization of ore bodies appears to depend on the intersection of fissures and attendent shattering within the more chloritic shaly beds. Apparently the ores were deposited under such low intensity conditions that ground preparation was of prime importance.

It must be concluded that the necessary combinations of requisite factors for ore localization are potentially few and that there is small liklihood of the future discovery of ore bodies of much greater size or grade than those developed in the past.

No additional exploration for lead-zinc ore can be recommended on the strength of the information developed by the now terminated DMEA project.

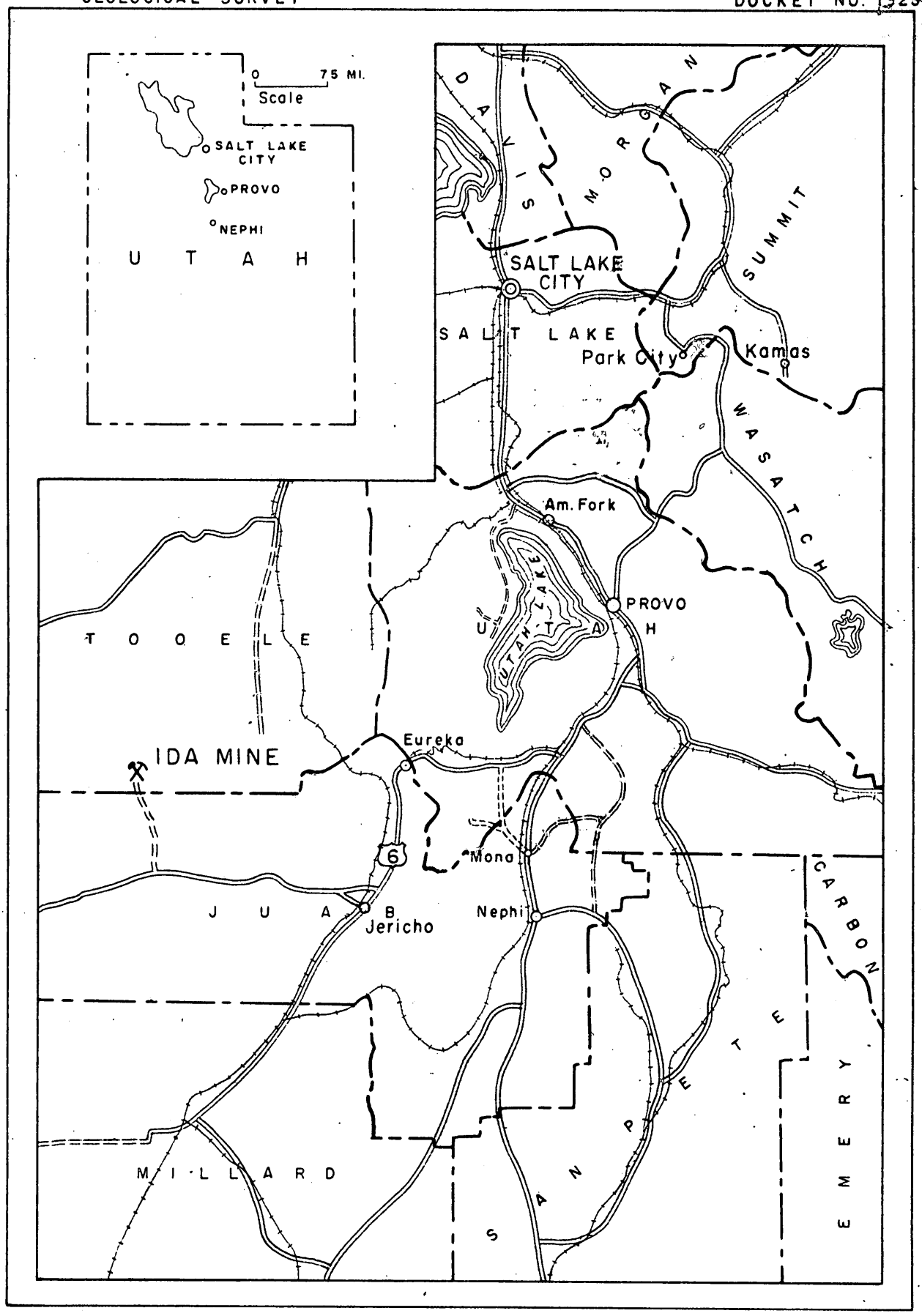

FIG. 1 INDEX MAP OF CENTRAL UTAH

0 5 10 15 20 MILES
Scale

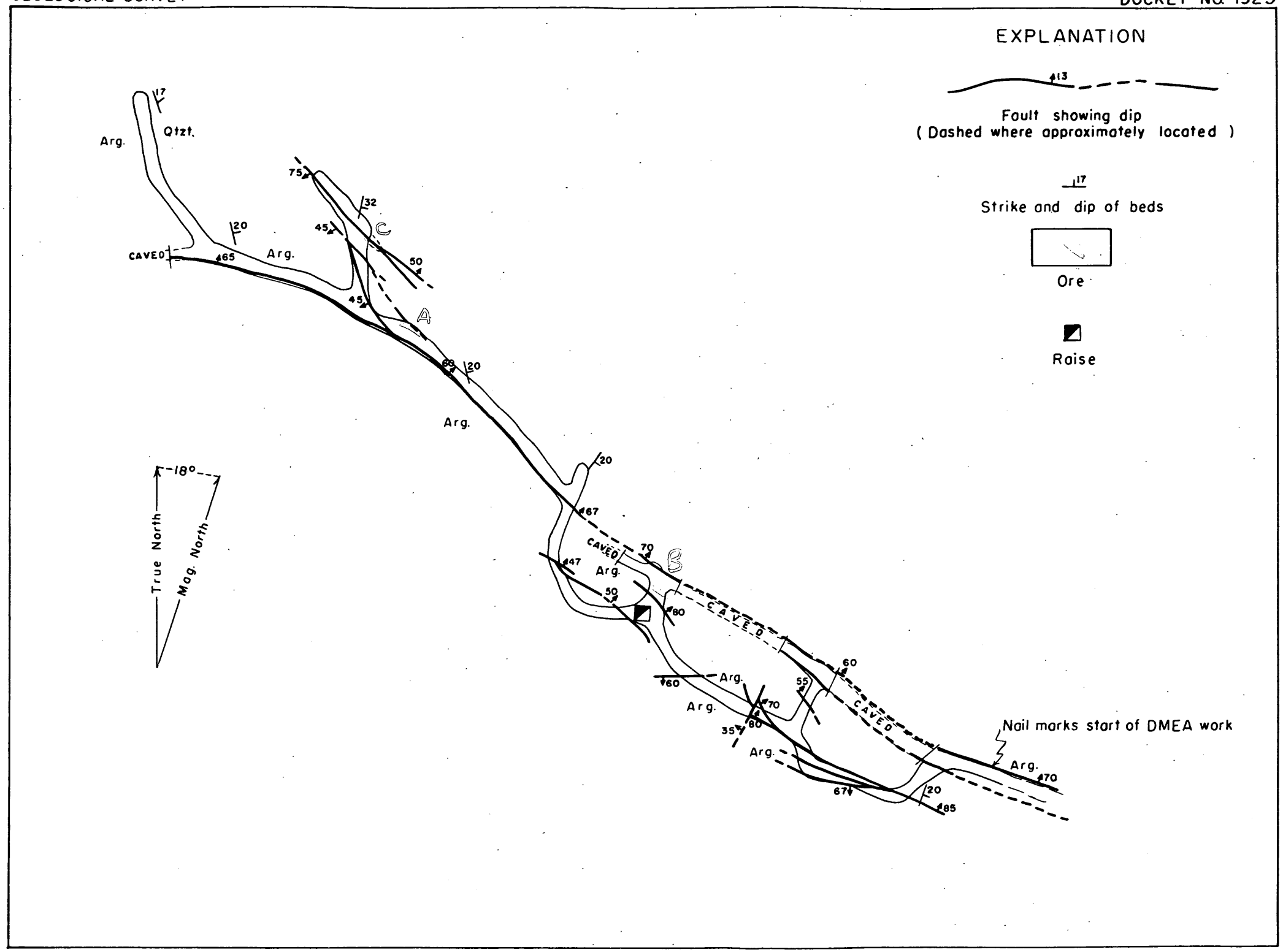

FIG. 2

By C. G. Tillman & R. W. Osterstock April 29, 1954

MAP OF UNITED MINING AND DEVELOPMENT CO.

LOWER LEVEL, IDA MINE

ERICKSON DISTRICT, TOOELE COUNTY, UTAH

0 40 80 120 ft.

Scale

October 20, 1953

Memorandum

To: W. H. King, Executive Officer, DMEA Field Team, Region IV

From: Chief, Minerals Development Branch, Mining Division, Region IV

Subject: Docket No. DMEA 1923 (Lead-zinc), Contract Idm-K340, United Mining Development Co., Tooele County, Utah.

Attached are nine copies of a final engineering report covering operations under the subject contract. Also included are five copies of a final report submitted by the operator.

Stephen R Wilson

Stephen R. Wilson

Enclosures

October 20, 1953

Memorandum

To: W. H. King, Executive Officer, DMEA Field Team, Region IV

From: Chief, Minerals Development Branch, Mining Division, Region IV

Subject: Docket No. DMEA 1933 (Lead-zinc), Contract Idm-X340, United Mining Development Co., Tooele County, Utah.

Attached are nine copies of a final engineering report covering operations under the subject contract. Also included are five copies of a final report submitted by the operator.

Stephen R. Wilson

Enclosures

UNITED MINING DEVELOPMENT CO.
TOOELE COUNTY, UTAH
DMEA 1923
Contract Idm-E340
Lead-zinc

Final Engineering Report

By M. H. Howes
Mining engineer
Bureau of Mines

UNITED MINING DEVELOPMENT CO.
TOOELE COUNTY, UTAH

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Description of work completed	5
Geology	6
Ore production	7
Expenditures	8
Termination	8

ILLUSTRATIONS

Fig. 1 Geologic plan of Tower Tunnel illustrating work accomplished under contract.

Fig. 2 Surface geology and topography in area of exploratory project.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Exploratory work at the Ida mine of the United Mining Development Co., Inc., was started on June 6, 1952, under docket No. DMEA 1923 (Lead-zinc), Contract Ida-E340 (short form), dated June 6, 1952, at a unit cost of $27.58. Drifting was advanced continuously within the mineralized zone of the Blaine fissure. The work was done on the lower adit level for a distance of 585 feet in a northwesterly direction. The project was terminated on May 31, 1953, 15 feet short of the 600 feet allowed by the contract, because of the slim possibility of discovering additional ore in that short distance. Finely disseminated pyrite is present in the fissure zone for almost the entire distance explored. Three separate, small lenses of fair-grade ore were encountered, and from these, two shipments were produced. From the ore shipped, $64.66 in royalties was paid to the Government. Total cost of advancing 585 feet at $27.58 per foot was $16,134.30, of which the Government's share, at 50 percent, was $8,067.15. This cost, less royalties of $64.66, was $8,002.49, the total cost of the project to the Government to date. The contract allowed the expenditure of $16,548.00 for 600 feet of drifting at $27.58 per foot, of which the Government's share, at 50 percent, was $8,274.00. The unexpended portion of the Government's share is $8,274.00 less $8,067.15, or $206.85.

It is concluded that although the project did not discover a large ore body, it did prove the existence of strong mineralization that may lead to larger deposits under favorable geologic conditions.

Recommendation is made that no more exploratory or development work be done with Government assistance, but that the company conduct a small exploratory project in the vicinity of the three ore lenses to prove or disprove the continuation of the deposition.

It is recommended that the DMEA certify that the project was successful and that the Government is entitled to royalties from production. When lenses or pockets of ore are found in the Ida mine, production is economically feasible.

INTRODUCTION

The United Mining Development Co., Inc., made application during 1951 for a DMEA loan for an exploratory drifting project at the Ida mine. The property was examined by a mining engineer of the Bureau of Mines in October 1951, and recommendation was made that the company be granted a loan. A contract was prepared, and on June 6, 1952, it was signed and work started on the project. The contract was terminated on May 31, 1953, after completion of 585 feet of the allowable 600 feet of drifting.

LOCATION

The Ida mine is situated on the south slope of the Simpson Mountains in the southeast part of Tooele County, Utah, about 54

miles west of Eureka. The specific location is Sec. 35, T. 10 S., R. 8 W., S.L.B. & M., Erickson mining district. The property may be reached by traveling 17 miles south from Eureka to Jericho on U. S. Highway 6, thence about 27 miles westerly on graveled Jericho-Callio road, and thence about 10 miles northerly on dirt road to the mine.

OWNERSHIP AND EXTENT

The Ida mine, formerly called the Blaine mine, is owned by the James Morgan estate, Eureka, Utah. The property consists of 6 unpatented lode mining claims, recorded in the Tooele County Court House, Tooele County, Utah, as follows:

Claim	Book	Page
Ida	3C	206
Ida No. 1	3C	206
Ida No. 2	3C	206-207
Ida No. 3	3C	207
Ida No. 4	3C	226
Ida No. 5	3C	226

A Landlord's Subordination Agreement was signed on June 6, 1952, by Harold Morgan.

Mr. Stanley S. Cheever is chairman of the Board of Directors and Mr. O. H. Evans is secretary-treasurer of the United Mining Development Co., Inc.

ALLOWABLE CONTRACT WORK

Docket No. DMEA 1923 (Lead-zinc), Contract Idm-E340, was signed on June 6, 1952. It is a short-form contract allowing a cost of $27.58 per foot for 600 feet of drifting for the total expenditure of $16,548.00, of which the Government contracted to pay 50 percent, or $8,274.00. Amendment No. 2 to the contract allows 12 months, instead of the original contract time limit of 10 months, from the date of the contract, to complete the project. The original contract describes the work as follows: "Extend the lower adit approximately 600 feet to the northwest within the mineralized zone of the Blaine fissure." When the project was started in June 1952, it was discovered that the adit was caved approximately 134 feet back from the face. For this reason the contract was amended to allow a total of 600 feet of tunnel advance, which includes rehabilitation consisting of spiling through the caved portion, or drifting in the footwall of the Blaine fissure alongside the cave, as well as new drifting.

DESCRIPTION OF WORK COMPLETED

The project was started on the lower adit at a point approximately 134 feet from the northwest face. After spiling and retimbering through caved drift for a distance of 17 feet, the management decided that it would be cheaper to by-pass the crushed area by drifting around it in the mineralized zone in the footwall of the Blaine fissure. The by-pass drift was turned back to the main adit

at two points, first, at approximately 70 feet, and second, at approximately 10 feet from the old face. Both places were caved and still within the crushed area. At the first point of reentry, the old adit was opened for 20 feet, and at the second point, it was opened to and beyond the old face for a distance of 25 feet. The by-pass drift was continued until the Blaine fissure was intersected at a point about 20 feet northeast of the old face of the adit. From that point on, drifting was conducted entirely along the main Blaine fissure or strands of the fissure. A total of 565 feet of advance was completed at the time the contract was terminated.

GEOLOGY

Rocks in the vicinity of the property consist of thin quartzites and interbedded shales. The beds strike northwesterly and dip 12° to 35° northeast. The principal mineraliser in this area is the Blaine fissure, which is a normal fault having undetermined, but probable small displacement. The fissure strikes northwesterly and dips 55° to 70° northeast. Fault gouge and crushed zones are common throughout the exposed length of the fissure. In places, splits or strands horsetail out from the main fissure, in both hanging wall and footwall sides. Finely disseminated pyrite is scattered through the rock in a zone along the Blaine fissure, which, in places, is several feet wide. Ore minerals, consisting chiefly of lead and zinc sulphides in a gangue of quartz, calcite and pyrite, occur

scattered along the fissure. The DMEA exploratory project encountered three separate, small lenses of ore. In each case the concentration of ore minerals occurred in a greenish, calcareous shale. During the exploration, a shipment of ore was produced from each of two of the lenses, and as a result, the ore from these two areas was practically exhausted. Boundaries of the ore in the third lens have not been established, but it is believed that only a few tons are present. The following analyses represent the ores encountered:

Sample	Location	Ounces per ton		Percent		
		Au	Ag	Pb	Zn	Cu
Smelter settlement 39.65 tons	Raise on Lens 1 3 to 4 feet thick	0.0075	0.85	7.41	8.4	0.06
Smelter settlement 48.18 tons	Drift on Lens 2 5 feet thick	0.025	1.545	8.55	9.35	0.275
2-foot cut	Drift on Lens 3 3 feet thick	<0.005	1.8	21.4	23.8	

ORE PRODUCTION

Two lots of ore were produced from lenses encountered in the exploratory project. The first lot, consisting of 48.18 tons wet weight, with a gross value of $1,125.18, shipped to Combined Metals Reduction Co. at Bauer, Utah, brought $43.95 in royalty to the Government. The second lot of 39.65 tons wet weight and gross value of $586.05, shipped to United States Smelting, Refining and Mining Co. at Midvale, Utah, brought $20.71 in royalty to the Government. Total royalties received by the Government as repayment of the loan are $64.66.

EXPENDITURES

The contract allowed expenditure of $16,548.00 for 600 feet of drifting at $27.58 per foot, of which the Government's share, at 50 percent, was $8,274.00. Since only 585 feet of drifting was completed before termination of the contract, the total cost was $16,134.30. The Government's share of this cost, at 50 percent, was $8,067.15. Royalties, in the amount of $64.66, deducted from the above cost, leave a total cost of project to the Government of $8,002.49.

TERMINATION

The contract was terminated after 585 feet of tunnel advance was completed, because of the extremely poor chance of finding ore in the next 15 feet of drifting on the existing poor mineral showing.

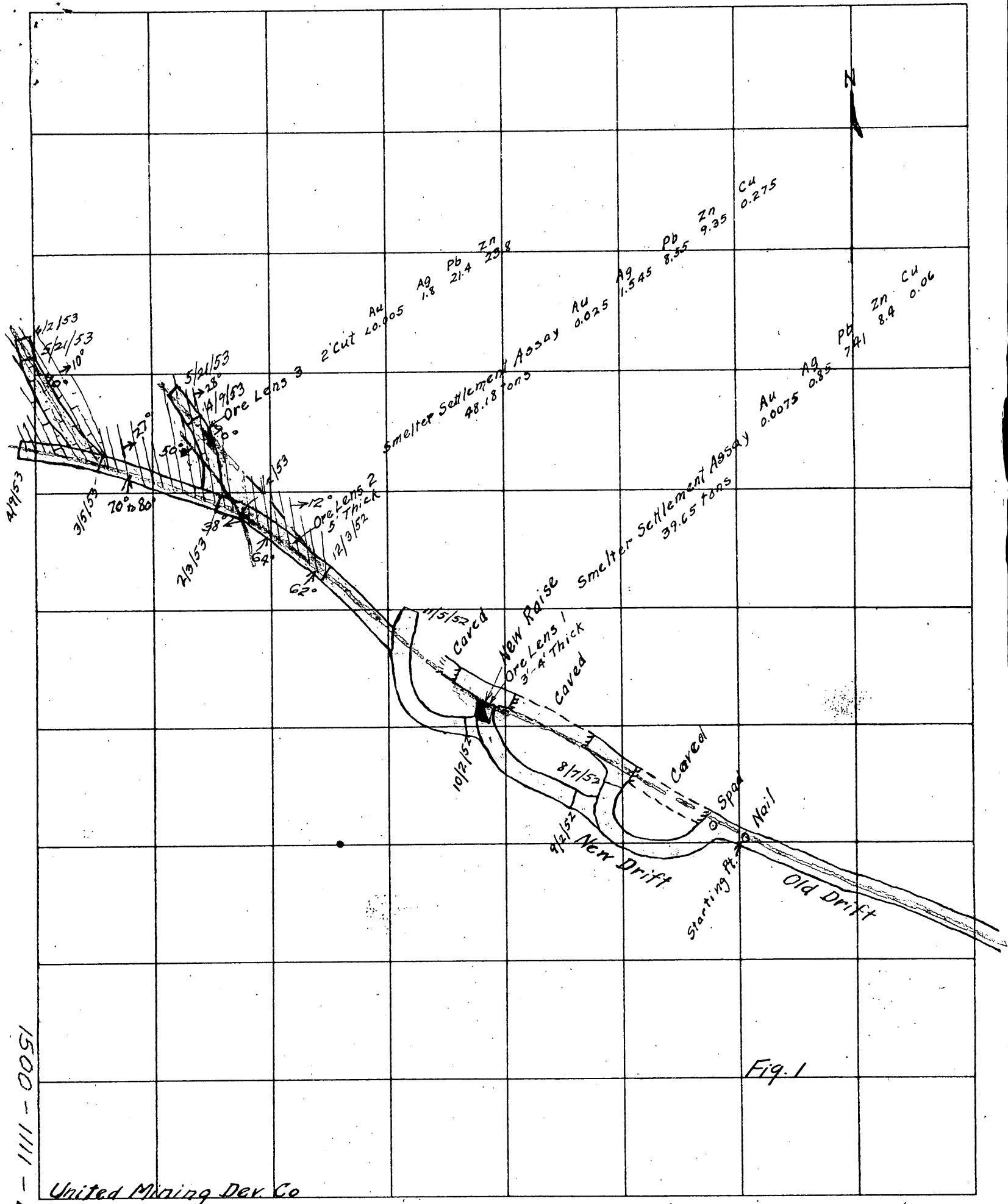


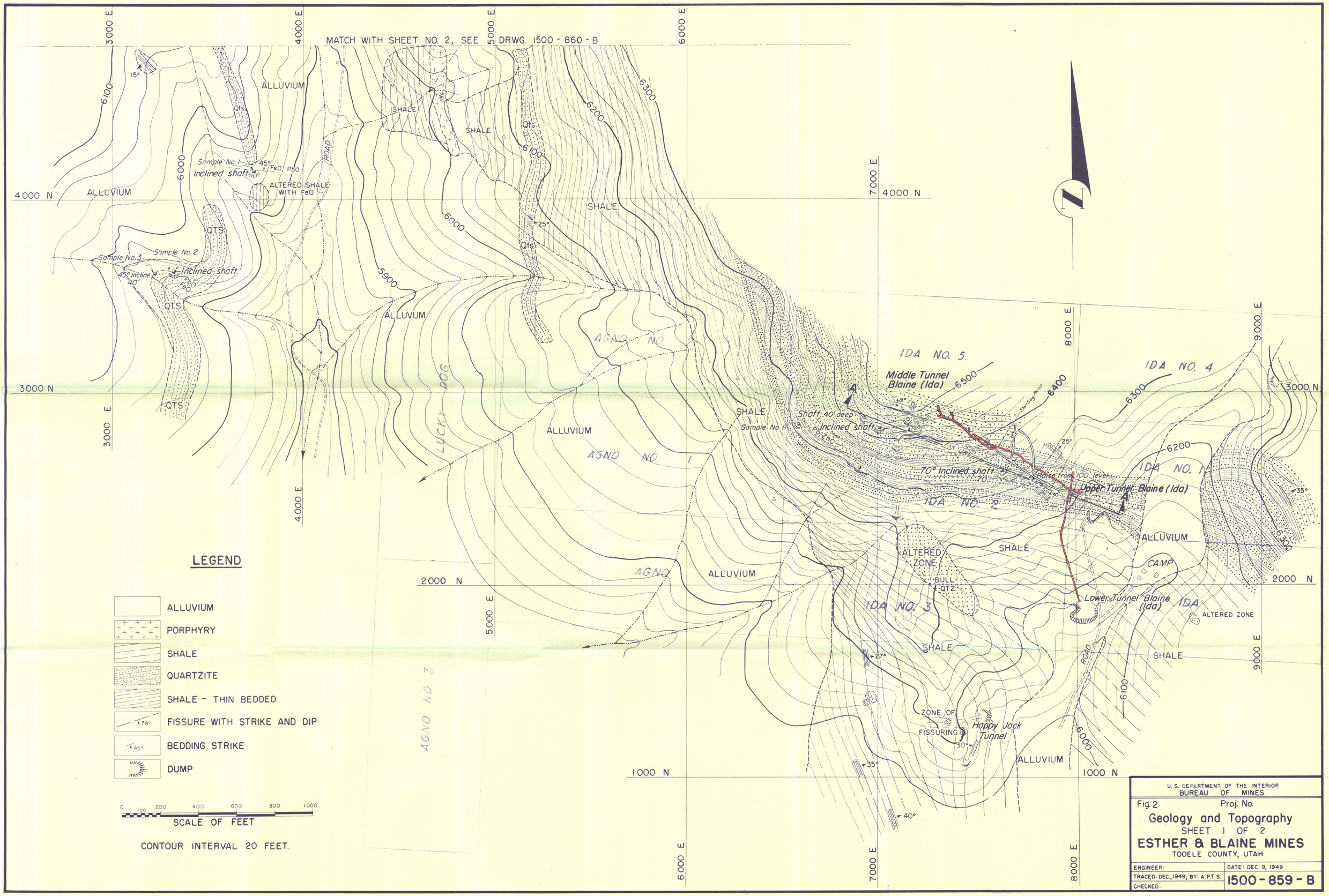
Fig. 1

United Mining Dev. Co

MINE Ida Mine LOCATION Tooele County, Utah LEVEL Lower Adit

GEOLOGY BY M.H. Howes. SURVEY Brunton SCALE 1" = 50' DATE 1952-1953

1500 - 1111 - E


MATCH WITH SHEET NO. 2, SEE DRWG. 1500 - 860 - B
3000 E
4000 E
5000 E
6000 E
7000 E
8000 E
9000 E
4000 N
3000 N
2000 N
1000 N
ALLUVIUM
QTS
SHALE
ROAD
Sample No. 1
45° FeO, PbO
Inclined shaft
ALTERED SHALE WITH FeO
Sample No. 2
Sample No. 3
45° Incline 40'
PbO FeO
AGNO NO. 1
AGNO NO. 2
AGNO NO. 3
LUCKY DOG
IDA NO. 1
IDA NO. 2
IDA NO. 3
IDA NO. 4
IDA NO. 5
Middle Tunnel Blaine (Ida)
Shaft 40' deep
Sample No. 11
PbZnO
70° Inclined shaft
Raise from 100' level
Upper Tunnel Blaine (Ida)
ALTERED ZONE
BULL QTZ
CAMP
Lower Tunnel Blaine (Ida)
ZONE OF FISSURING
Happy Jack Tunnel
6100
6000
5900
6300
6200
6500
6400
LEGEND
ALLUVIUM
PORPHYRY
SHALE
QUARTZITE
SHALE - THIN BEDDED
FISSURE WITH STRIKE AND DIP
BEDDING STRIKE
DUMP
0 100 200 400 600 800 1000
SCALE OF FEET
CONTOUR INTERVAL 20 FEET.
U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Fig. 2
Proj. No.
Geology and Topography
SHEET 1 OF 2
ESTHER & BLAINE MINES
TOOELE COUNTY, UTAH
ENGINEER:
TRACED: DEC., 1949, BY: A.P.T.S.
CHECKED:
DATE: DEC 9, 1949
1500 - 859 - B